

The crane-flies collected by the swedish expedition (1895—1896) to Southern Chile and Tierra del Fuego.

(Tipulidæ, Diptera.)

By

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With 2 Plates.

Communicated January 29th by CHR. AURIVILLIUS and Y. SJÖSTEDT.

Through the kindness of Dr. YNGVE SJÖSTEDT, the writer has been enabled to study the crane-flies collected in southern Chile and Tierra del Fuego by the Swedish Antarctic Expedition of 1895—1896. This collection constitutes one of the largest and most important lots of Tipulidæ that has yet been brought from the extreme southern parts of South America, and adds much to our knowledge of the crane-flies of a very interesting and still comparatively little-known region.

The general itinerary and narrative of the Swedish Expedition has been recorded in a most interesting manner by Dr. AXEL OHLIN, one of the three members of the party.¹ The majority of the specimens were taken at Punta Arenas

¹ OHLIN, AXEL. A Zoologist in Tierra del Fuego. Some account of the Swedish Expedition, 1895—6: Natural Science, vol. 9, pp. 172—181, pl. 3, 4 (maps); September 1896.

(Sandy Point, Lat. 53°, 10' S., Long. 70°, 54' W., on the Straits of Magellan, capital of the Chilian territory of Magallanes) during late November and early December, 1895 by Dr. OHLIN and Dr. O. NORDENSKJÖLD. The specimens from Tierra del Fuego are almost all from the eastern pampas region along the Rio Grande and were collected in February 1896 by OHLIN. Only one species, *Limnophila eutaeniata* BIGOT, is identical with any of the seven species described by BIGOT from the southern Archipelago of Tierra del Fuego. This specimen was secured near the Rio Azopardo in the mountainous region near Admiralty Sound in the south-western part of the island during the unsuccessful trip to reach Lago Fagnano (OHLIN, l. c., pp. 178, 179). The Chilian specimens, so labelled, were almost all collected by Dr. PER DUSÉN in the vicinity of the Rio Aysén. This river reaches the Pacific ocean at about Latitude 45°, 23', 30" S., after having cut its way through the whole of the West Patagonian Cordillera.¹ In addition to the Tipulidæ herein described as new, Dr. DUSÉN secured here the type of the handsome Tanyderid crane-fly, *Tanyderus gloriosus* ALEX.

Family Tipulidæ.

Subfamily Limnobiinæ.

Tribe Limnobiini.

Genus *Dicranomyia* STEPHENS.

Dicranomyia ohlini, sp. n.

Rostrum nearly as long as the head; antennae dark brown; mesonotum and abdomen dark brown, the segments of the latter ringed with paler; femora with the tips broadly yellowish; wings subhyaline, with large pale brown clouds, about four along the costal region; vein Sc_1 short, cell 1st M_2 closed.

¹ DUSÉN, PER. The Vegetation of Western Patagonia. Reports of the Princeton University Expeditions to Patagonia, 1896—1899, vol. 8, pt. 1, pp. 18—26; 1903—1906.

Female. — Length, 5,8 mm.; wing, 8,2 mm.

Rostrum dark brown, slender, nearly as long as the head; palpi dark brown. Antennae dark brown, the flagellar segments oval. Head dark brown.

Mesonotum dark brown, the praescutum without stripes. Pleura pale brown, sparsely gray pruinose. Halteres pale brown, the knobs dark brown, the base of the stem dull yellow. Legs with the coxae and trochanters dull yellow; femora pale brown, the tips broadly but indistinctly yellowish; tibiae and tarsi dark brown; claws toothed, the largest tooth before midlength. Wings subhyaline, with a few large pale brown clouds, arranged as follows: the first at the arculus; the second in cell *R* before midlength of the cell; the third at the origin of *Rs*; the fourth at the stigma, continued down onto the end of *Rs*; cord and outer end of cell *1st M*₂ narrowly and rather indistinctly seamed with pale brown; veins dark brown. Anal angle of the wing rather prominent. Venation in the single remaining wing of the unique type distorted and difficult of exact interpretation; the discernible features are as follows: *Sc*₁ ending a short distance beyond, *Sc*₂ almost exactly opposite, the origin of *Rs*; cell *1st M*₂ closed, rather large, longer than any of the veins issuing from it; basal deflection of *Cu*₁ a short distance before the fork of *M*.

Abdomen dark brown, the segments with broad pale caudal margins. Ovipositor with the valves long and acute, the tergal valves especially slender, straight.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♀, Punta Arenas, Straits of Magellan, November 28, 1895 (OHLIN) Collector's No. 216.

Type in the Riksmuseum in Stockholm.

Tribe Eriopterini.

Genus *Trimicra* OSTEN SACKEN.

Trimicra, sp.

One female specimen from Punta Arenas, November 27, 1895 (OHLIN); Collector's No. 193. The specimen is poorly

preserved and further determination is impossible. *Trimicra reciproca* (WALK.) is known from Uruguay and northern Argentina and *T. andensis* ALEX. from Ecuador and Peru.

Tribe Limnophilini.

Genus *Limnophila* MACQUART.

Subgenus *Austrolimnophila*, subg. n.

Antennae elongate, 16-segmented; in the male sex, the first segment moderately elongated, the second cyathiform; flagellar segments elongate-cylindrical, gradually decreasing in length from the basal to the outermost, the last segment subequal to the penultimate, slightly enlarged distally; flagellar segments clothed with an abundant erect, pale pubescence of moderate length, the intermediate segments with a few verticils just before midlength. Thorax moderately high; tuberculate pits lacking. Halteres elongate, the clubs rather large. Legs long and slender, the tibiae with long spurs; claws small, simple. Wings with vein *Sc* long, ending beyond the fork of R_{2+3} , Sc_2 at the extreme tip of Sc_1 and longer than it; R_s long, square at its origin, the angle spurred; R_{2+3} short, about one-half longer than the basal deflection of Cu_1 ; r about twice its length removed from the tip of R_1 ; cells R_3 , R_5 and $1st\ M_2$ in alignment; cell $1st\ M_2$ long and narrow, the basal deflection of Cu_1 just beyond the middle of its length; petiole of cell M_1 very short, less than m . Abdomen long and slender. Male hypopygium with the pleurites stout, narrowed at the outer end, at the tip with two pleural appendages; outer appendage almost straight, the outer face with numerous hairs, the tip suddenly narrowed into a blackened apical spine; inner appendage bent at a right angle near the base, at the bend provided with a few erect hairs, the apex unchitinized, provided with a few tiny setae. Gonapophyses in the form of chitinized horns whose acute tips slightly diverge.

Type of the subgenus. — *Limnophila eutaeniata* BIGOT (Tierra del Fuego).

This new group is close to the subgenus *Limnophilella* ALEXANDER (Panama to Brazil) from which is most readily

told by the position of the basal deflection of Cu_1 , which is here situated at midlength of cell $1st\ M_2$ instead of before the fork of M as in *Limnophilella*. The petiole of cell M_1 is very short to almost lacking so that cell M_1 is exceedingly deep.

Limnophila (*Austrolimnophila*) *eutaeniata* BIGOT.

1891 Mission Scientifique du Cap Horn, 1882—1883, vol. 6, Zoologie, part 2.
pp. 9, 10, pl. 2, fig. 3.

Male. — Length 15 mm.; wing 16 mm.; antenna, about 7,8—8 mm.; halteres about 2,7 mm.; fore leg, femur, 9,8 mm.; tibia, 12,2 mm.; metatarsus about 12 mm.

The bands on the wing include one at the wing-base, one at the level of the origin of R_s , one at the level of the cord and one at the level of the outer end of cell $1st\ M_2$, the two last confluent in cells R_3 , R_5 , and $1st\ M_2$ leaving a clear area in the middle of the last named cell; the wing-apex in cells R_2 to $2nd\ M_2$ is darkened. BIGOT shows the species as having a complete cross-vein at the origin of the sector, connecting it with M ; this is not so in the present specimen where the sector is merely spurred. The male hypopygium has the ninth tergite heavily chitinized and shiny, interrupted only on the mid-dorsal line.

One male, Rio Azopardo, near Admiralty Sound, Tierra del Fuego, March 1896 (OHLIN).

Specimen in the Riksmuseum in Stockholm.

Limnophila duséni, sp. n.

Antennae elongate, brown, the first flagellar segment yellowish; general coloration dull yellow, the mesenotal praescutum with five narrow brown lines, the pleura with a broad dark brown stripe; halteres slender, yellow; wings yellow, with sparse pale brown spots at the crossveins and deflections.

Female. — Length 16,5 mm.; wing, 13,3 mm.

Rostrum brown; palpi dark brown. Antennae long and slender, if bent backward extending about to the wing-root; scapal segment dark brown; first flagellar segment light yel-

low, the remaining flagellar segments dark brown; first scapal segment long, the second pyriform; first flagellar segment a little longer than the second, subequal to the third; the first two segments have short verticils, those on the other segments being longer; apical flagellar segments greatly attenuated. Head gray, more yellowish on the occiput; in the unique type, the inner margin of the eyes is broadly bordered by brown but this seems to be due to a discoloration.

Mesonotum light brownish yellow, the praescutum with five narrow, subequal, dark brown stripes, the median stripe slightly longest, the lateral stripes directed cephalad and proximad and becoming confluent with the sublateral stripes; remainder of the mesonotum grayish testaceous. Pleura dull yellow, sparsely pruinose, with a broad, dark brown ventral stripe extending from the cervical sclerites to the base of the abdomen, passing ventral of the base of the halteres. Halteres slender, dull yellow. Legs with the coxae narrow, pale yellow; trochanters dull yellow; remainder of the legs broken. Wings with a deep yellow suffusion that is about uniform over the entire surface; a few rather small pale brown spots as follows: at the origin of R_s ; at the tip of Sc_1 , continued caudad to the fork of R_{2+3} ; a large area at the fork of R_s ; outer end of cell 1st M_2 and the basal deflection of Cu_1 seamed with brown; smaller spots at the end of R_1 , R_2 and the fork of M_{1+2} . Venation: Sc very long, extending beyond the fork of R_{2+3} , Sc_2 at the very tip of Sc_1 and exceeding it in length; r lacking; R_s square and spurred at origin; cells R_3 , R_5 and 1st M_2 in oblique alignment; cell 1st M_2 narrowed at its base, broadened outwardly; m a little shorter than the outer deflection of M_3 ; petiole of cell M_1 a little longer than the basal deflection of Cu_1 , the latter near midlength of cell 1st M_2 .

Abdomen brownish yellow with a narrow brown lateral line; sternites dull yellow. Ovipositor with the tergal valves slender, cylindrical, the tips acute, the surface minutely and shallowly pitted to give a reticulate appearance; sternal blades much longer than the tergal valves, their origin basad of the origin of the latter, flattened, the tip, viewed from the side obtuse.

Habitat. — Chile.

Holotype, ♀, Rio Aysén (P. DUSÉN).

Type in the Riksmuseum in Stockholm.

If *Polymoria* PHILIPPI is to be recognized as a valid genus or subgenus, *Limnophila duséni* will probably be more correctly referable to it. It agrees in some respects with *Polymoria punctipennis* PHIL., which, however, is a grayish brown species with differently marked wings.

It is with great pleasure that this fly is dedicated to the noted botanist who collected the types of this and several other interesting species of Diptera in the vicinity of the Aysén River.

Subfamily Tipulinae.

Tribe Tipulinae.

Genus *Tipula* LINNÆUS.

In the present collection, no less than eleven species of the genus *Tipula* were included. There have been six other species described from Southern Patagonia and Tierra del Fuego but none of these are included in the present collection. These species are *Tipula pictipennis* WALK. (1836), *T. rufirostris* BIG. (1891), *T. variineura* (BIG.) (1891), *T. flavoannulata* JACOBS (1900) and *T. wittei* and *T. philippiana* ALEX. (in press).

The general facies of the species of *Tipula* in the vicinity of the Straits of Magellan may be summarized as follows:

The species are almost invariably dark-colored with the head and thorax gray pruinose. The abdomen is usually yellow or yellowish and often trivittate with brown. A considerable number of the species have the antennae dark brownish black with only the second segment of the scape conspicuously light yellow or brownish yellow. All of the known species (excepting *T. wittei* ALEX., of Santa Cruz, Patagonia, which has the wings almost uniformly subhyaline) have the wings spotted or streaked with brown or gray and thus fall in the major divisions of the *striatae* and *marmoratae*. The

wing-pattern of the majority of the species shows a curious monotony of pattern that is remarkable when we learn that more than one group of the genus is involved. The costal cell is unmarked, except for a seam at the humeral cross-vein, but the subcostal cell usually shows a series of brown markings that are darker than any of the other areas of the wing, being deeper, or at least as deep, in color, than the stigmal area; the remainder of the wing-surface is variously mottled and marbled with brown, gray and subhyaline, according to the species. A few species (*T. patagonica*, *T. fuegiensis*) have the ground-color of the wings dark, sparsely variegated with subhyaline. Other species (*T. rufirostris* BIGOT, *T. ona*, *T. philippiana* ALEX., *T. chilensis*) have the wings dark, longitudinally streaked with hyaline, this including a medial streak extending the length of the wing, cell R_5 being entirely pale (almost as in certain members of the *tricolor* group of the Nearctic region). The hypopygia of the species of *Tipula* from the region under consideration vary in structure according to the group but all of the species known to the writer bear a median appendage on the eighth sternite and the shape of this structure offers one of the best means of specific identification. The ovipositor of the female in practically all cases has the tergal valves long and slender, arising from a long, shiny dorsal shield, and with the margins of the valves quite smooth; the sternal valves are of various lengths, in some species being very short, in others almost attaining the ends of the tergal valves.

The following key will be of some service in separating the closely related species of *Tipula* from the region considered by this paper.

1. Wings nearly hyaline or faintly tinged with gray, the post-stigmal subhyaline area little conspicuous. (Santa Cruz, Southern Patagonia). *T. wittei* ALEX.
Wings not as above, streaked longitudinally with brown and white or else heavily marbled with brown, gray and pale markings. 2.
2. Wings longitudinally streaked, or else with the ground-color dark with the pale markings very small and sparse. 3.
Wings heavily and distinctly marbled. 10.

3. All, or practically all, of cell R_5 pale. 4.

At least the base or middle portion of cell R_5 conspicuously darkened (*glaphyoptera* group 1; eighth sternite of male hypopygium with a long, conspicuous appendage that is profoundly bifid or trifid). 7.

4. Posterior cells (M_1 to Cu_1) uniformly darkened. (Tierra del Fuego). *T. rufirostris* BIG.

Posterior cells (M_1 to Cu_1) pale basally. 5.

5. Mesonotal praescutum dark brown with three gray stripes. 6.

Mesonotal praescutum dull yellowish with three brown stripes. (Tierra del Fuego.) *T. ona*, sp. n.

6. Wing-markings with the brown markings more extensive, the white spot beyond the stigma narrowly triangular; anal and posterior cells almost uniformly darkened on their outer half. (Southern Chile.)

T. chilensis, sp. n.

Wing-markings with the brown pattern less extensive, the white spot beyond the stigma broad; anal and posterior cells variegated with brown and subhyaline on their outer half. (Santa Cruz, Southern Patagonia.)

T. philippiana ALEX.

7. A broad, conspicuous, transverse white band beyond the stigma, extending from costa to beyond cell 1st M_2 into the base of cell M_4 , crossing the base of cell R_5 ; (male hypopygium with the appendage of the eighth sternite bifid). (Southern Chile.)

T. duséni, sp. n.

No such conspicuous band beyond the stigma. 8.

8. Subcostal cell with the outer half dark brown, excepting a small oval, subhyaline spot just before the end of the cell; (scapal segments dull yellow; hypopygium with the appendage of the eighth sternite trifid, the median lobe longer than the subacute lateral lobes). (Magallanes, Straits of Magellan.)

T. nordenskjöldi, sp. n.

Subcostal cell with two or three small brown marks. 9.

9. Cell R_5 entirely darkened; (first scapal segment dark; antennae long; male hypopygium with the appendage of the eighth sternite trifid, the lateral lobes obliquely truncated at their tips). (Magallanes, Straits of Magellan.) *T. patagonica*, sp. n.

Cell R_5 with at least the outer half pale; (scapal segments pale; antennae shorter; male hypopygium with the appendage of the eighth sternite trifid, the lateral lobes indistinctly bilobed at their tips). (Tierra del Fuego.) *T. fuegiensis*, sp. n.

10. Head and thorax black; (femora with a conspicuous subterminal yellow ring). (Santa Cruz, Southern Patagonia.) *T. flavo-annulata* JACOBS

Head and thorax not black.

11.

11. Wings with the costal and subcostal cells and a stripe immediately behind vein *Cu* strongly yellowish; (antennae with the second scapal segment dull yellow; femora with a conspicuous yellow subterminal ring). (Magallanes, Straits of Magellan.)

T. bigotiana, sp. n.

Wings with the above cells not strongly yellowish. 12.

12. Subcostal cell with four large brown blotches, the pale interspaces very small and restricted; (antennae with the scapal segments yellowish; femora with a conspicuous yellow subterminal ring; male hypopygium with the appendage of the eighth sternite small, semi-circular). (Magallanes, Straits of Magellan.) *T. antarctica*, sp. n.

Subcostal cell with the brown blotches and pale interspaces approximately subequal or the latter more extensive than the former. 13.

13. Mesonotal praescutum gray with four narrow brown stripes; second scapal segment brownish; (male hypopygium with the ninth tergite almost squarely truncate across its caudal margin; sternal valves of the female ovipositor almost as long as the tergal valves). (Magallanes and Tierra del Fuego.)

T. tehuelche, sp. n.

Mesonotal praescutum gray with three darker grayish brown stripes, the median stripe broad; second antennal segment orange; (male hypopygium of the known species with a deep U-shaped median notch; of the females, with the sternal valves of the ovipositor very much shorter than the tergal valves). 14.

14. Posterior cells of the wing subhyaline, only the centers darkened. (Magallanes, Straits of Magellan.)

T. magellanicola, sp. n.

Posterior cells dark with only the apices marked with pale areas. (Magallanes, Straits of Magellan.)

T. magellanica, sp. n.

The following species are omitted from the above key because of insufficient description of details; *T. pictipennis* WALK. and *T. variineura* (BIG.). Both of these species (if they are not actually synonymous as suggested by the writer some years ago (Annals Entomological Society of America, vol. 5, p. 344; 1912) belong to the group of species with heavily marmorate wings and with the second antennal segment orange or fulvous.

Tipula ona, sp. n.

Antennae with the five basal segments yellowish; head pale reddish brown with an indistinct capillary brown line; praescutum dull yellow, with three brown stripes; femora yellow, before the tips with a narrow brown ring; wings whitish subhyaline, streaked longitudinally with dark brown; abdomen dull brownish yellow, indistinctly trivittate with brown.

Female. — Length about 17 mm.; wing, 15.3 mm.

Frontal prolongation of the head reddish brown, sparsely gray pruinose. Antennae with the basal five segments dull yellow, the first segment slightly pollinose; intermediate segments indistinctly bicolorous, the distal segments dark brown. Head pale reddish brown with an indistinct capillary brown line that extends onto the low vertical tubercle.

Mesonotum slightly discolored in the unique type, dull yellow, the praescutum with three distinct brown stripes, the median stripe paler down its center and split by a capillary dark brown line; scutum with the lobes dark brown; scutellum yellow; postnotum light brown, sparsely pruinose. Pleura dull yellow, sparsely spotted with light brown. Halteres pale, the knobs and distal part of the stem dark brown. Legs with the coxae brownish yellow; trochanters dull yellow; femora pale brownish yellow with a comparatively narrow brown ring before the tip; tibiae yellow, the tips faintly darkened; tarsi pale brownish yellow, the distal segments darkened. Wings whitish subhyaline, conspicuously streaked with brown; costal and subcostal cells more brownish yellow, a spot in the latter at the origin of *Rs* and the tip brown; stigma dark brown, including the fork of *Rs*; a large dark brown area including the outer end of cell *R*₂ and the middle of *R*₃; a broad seam along *Cu* in cell *M*, the outer portions of cells *M*₁, 2nd *M*₂, *M*₄, *Cu*₁ and the Anal cells pale brown; a conspicuous white streak extending the length of the wing, occupying most of cell *R*, the anterior margin of *M*, the basal half of cell 1st *R*₁, all of 1st *M*₂ and *R*₅, and the basal third of cells *M*₁, 2nd *M*₂, *M*₄ and the narrow anterior and basal portions of *Cu*₁; cell *Cu* slightly darkened on its basal half but with the outer half practically clear; 1st Anal cell clear except for a brown cloud at the margin and another adjoining vein 2nd *A*; cell 2nd *A* clear, the margin and anal angle of the wing darkened; the conspicuous white area beyond the stigma includes the outer half of cell 2nd *R*₁, nearly the basal half of *R*₂, and a spot near the base of cell *R*₃; veins dark brown, more yellowish in the pale areas.

Abdomen dull brownish yellow, narrowly trivittate with brown. Ovipositor with the tergal valves very long and slender, almost straight; sternal valves very short and compressed, yellow, the tips obtuse.

Habitat. — Tierra del Fuego.

Holotype, ♀, Rio Grande, February 1896 (OHLIN), Collector's No. 1020.

Type in the Riksmuseum in Stockholm.

Tipula ona is apparently close to *T. rufirostris* BIGOT, which has the wing-pattern much darker. To judge from

BIGOT's description and colored figure (Mission Scientifique du Cap Horn, 1882—1883, vol. 6, Zoologie, part 2, pl. 1, fig. 2; 1891) his species is not unlike *Tipula bella* LOEW of the Nearctic region, with most of the wing dusky but with cell 1st M_2 , R_5 , the cephalic half of Cu_1 and with portions of cells R_1 , C and Sc near the stigma pale. *Tipula ona* has the pale areas much more extensive, including the broad bases of the second to fifth posterior cells. This latter species is from the eastern pampas section of Tierra del Fuego, whereas *T. rufirostris* and most of the other Tipulidæ described by BIGOT from Cape Horn will be found in all probability to be restricted to the more mountainous and forested western parts of the archipelago.

Tipula ona is named after the Indian tribe inhabiting the plains and timbered regions of central, northern and eastern Tierra del Fuego (see HATCHER, Reports of the Princeton University Expeditions to Patagonia, 1896—1899, vol. 1, Narrative and Geography, p. 272; 1903).

Tipula chilensis, sp. n.

Close to *T. philippiana* ALEX.; antennae with the basal segments yellow, the intermediate segments bicolored; mesonotal praescutum dark brown with three bluish gray stripes; pleura gray with a narrow brown longitudinal stripe; wings whitish subhyaline, spotted and striped with brown and gray; abdomen yellow, trivittate with brown.

Female. — Length about 21 mm.; wing about 18.4 mm.

Frontal prolongation of the head dull brownish yellow; palpi dark brown. Antennae with the first segment brown, heavily gray pruinose; segments two to four yellow; the intermediate segments bicolored, the basal enlargement dark brown; distal segments dark brown. Head light gray, the vertical tubercle paler, almost white; vertex sublaterally tinged with brown.

Mesonotal praescutum dark brown with three bluish gray stripes that are narrowly margined with dull pale gray; the median stripe is split by a capillary brown line that continues to the anterior margin; in addition there is on either side, beginning at the suture, where all three stripes are

confluent, a slightly broader line that widens out in front, becoming obsolete at about the anterior third of the median stripe; anterior ends of the lateral stripes slightly brownish; interspaces of the dark brown groundcolor, interrupted opposite the anterior ends of the lateral stripes where the pale gray margins of the lateral and median stripes become confluent; interspaces with dark brown setigerous punctures; remainder of the mesonotum pale reddish, the scutum heavily gray pruinose, the scutellum and postnotum sparsely pruinose. Pleura light gray with a narrow brown dorsal longitudinal stripe, beginning on the propleura, continued caudal almost to the base of the halteres, interrupted for a short space beneath the wing-root. Halteres dark brown, the bases of the stem and knob pale. Legs with the coxae pale brown, sparsely pruinose; trochanters dull yellow; femora dull yellow, immediately before the tips with a narrow brown ring; tibiae brownish yellow, the tips narrowly brown; tarsi light brown. Wings whitish subhyaline, with a heavy brown and gray pattern; cells *C* and *Sc* strongly yellowish; cell *Sc* with three dark brown areas, the smallest at the end of the cell, the other two continued down into cell *R* and there narrowly connected with one another by a longitudinal brown line; the pale space between these areas is about equal in size to the basal area but smaller than the larger blotch at the origin of the sector; stigma dark brown, directly connected with a large brown area at the fork of *Rs*, which, in turn, is connected along cell *R*₃ with a large brown mark near the wing-apex in the outer half of cell *R*₂ and the most of cell *R*₃; paler brownish gray areas in cell *M* along vein *Cu*, this with a small yellowish spot near three-fourths the length of the cell; outer ends of cells *M*₁, 2nd *M*₂, *M*₄ and most of *Cu*₁; the anal cells are darkened except on their basal half or less; the pale areas on the wing appear as most of cell *M*, this mark sending a pale arm into cell 1st *R*₁, excepting its base and tip, and continued through cell 1st *M*₂ and *R*₅ to the wing-margin or nearly so (the extreme tip of the wing is injured in the unique type); veins surrounding cell 1st *M*₂ very narrowly seamed with brown; the bases of cells *M*₁, 2nd *M*₂, *M*₄ and the extreme inner angle of *Cu*₁ pale; cell *Cu* is pale except for two small

pale brown areas, one subbasal, the other at about mid-length of the cell.

Abdominal tergites with the first segment gray pruinose, the other segments with broad, brown sublateral stripes on either side and a very narrow and indistinct pale brown dorso-median stripe; these sublateral stripes are narrow on the basal segments but broaden out behind, on the seventh segment almost suffusing the tergite; lateral margins broadly pale; sternites dull yellow with a narrow pale brown stripe that begins as a brown spot on the second sternite, continued caudal but on the fifth to seventh sternites being represented only by a short basal line on each sternite. Ovipositor with the flattened sternal valves extending to a little beyond one-half the length of the straight, slender sternal valves.

Habitat. — Chile.

Holotype, ♀, (P. DUSÉN); the specimen was presumably taken in southern Chile together with the other material secured by Dr. DUSÉN.

Type in the Riksmuseum in Stockholm.

Tipula chilensis is very closely related to *T. philippiana* ALEX. (Province of Santa Cruz, Patagonia). The pale basal antennal segments and the peculiar præscutal pattern of gray stripes on a dark brown background is shown by both species. *T. chilensis* has the median præscutal stripe more brown behind and with the wing-pattern much heavier, especially the subcostal spots, the brown mark at the stigma and in cells R_2 and R_3 , the much greater amount of brown in the posterior and anal cells; the white post-stigmal area appears only as a narrow seam in the extreme outer end of cell 2nd R_1 , the extreme base of R_2 and as a narrow oval spot near the base of cell R_3 . *Tipula ona* also has the wing-pattern very much as in species of this group of the genus but the thoracic pattern would indicate that it is not closely allied.

Tipula bigotiana, sp. n.

Antennae dark brown, the second segment dull yellow; head reddish gray, with a brown median line; mesonotal praescutum dark gray with four brown stripes; scutellum

and postnotum light gray with a conspicuous brownish black median line; femora with the tips broadly dark brown and with a conspicuous subterminal yellow ring; wings subhyaline with a very heavy brown pattern that is transversely subtesselated, the costal and subcostal cells, the base of the wing and along vein *Cu* strongly yellowish; abdomen yellow, trivittate with dark brown.

Female. — Length about 20 mm.; wing 18,8 mm.

Frontal prolongation of the head brownish gray; palpi dark brown. Antennae with the first segment brown, sparsely gray pruinose; second segment dull brownish yellow; flagellum dark brown, the base of the first segment a little brighter. Head reddish gray with a broad dark brown median stripe that continues onto the vertical tubercle.

Mesonotal praescutum dark gray with four indistinct brown stripes, the two intermediate stripes long, with the sides nearly parallel, separated from one another by a gray line of nearly equal width; lateral stripes broader; remainder of the mesonotum gray, the scutellum and postnotum light gray with a broad dark brownish black median line that is broadest on the postnotum. Pleura dark gray. Halteres dark brown, the base of the stem more orange, the tips of the knobs paler. Legs with the coxae dark gray; trochanters brownish yellow tipped with black on the inner faces; femora brownish yellow, the tips broadly dark brown and with a subequal subterminal yellow ring; tibiae brownish yellow, the tips narrowly brown; tarsi light brown. Wings subhyaline with a heavy brown pattern that is somewhat transversely tessellated; cells *C* and *Sc*, the space immediately before the arculus and the area between vein *Cu* and the abortive anal vein immediately behind it light yellow; cell *Sc* with four dark brown markings, all except the last of which are continued caudal across cells *R* and *M* to the cubital vein and thence beyond to the wing-margin as paler brown zigzag areas in the cubital and anal cells; stigma dark brown with a yellowish mark in cell *Sc* immediately above it; a brown spot at the end of vein *R*₂, continued backward to vein *R*₄₊₅; tip and base of cell *R*₃ darkened; cell *R*₅ clear with the base and a faint cloud near midlength darkened; cells *M*₁, 2nd *M*₂, *M*₄ and *Cu*₁ have their middle portions darkened and with a rounded sub-

hyaline droplet close to the wing-margin in each of these cells; cell *1st M*₂ grayish subhyaline, the outer third darkened; the clear area between the brown blotches in cell *M* adjoining vein *Cu* at about two-thirds its length is strongly yellowish; veins dark brown, paler in the yellowish areas. Venation: cells large and ample; petiole of cell *M*₁ a little longer than *m*; *m-cu* obliterated by the short fusion of *Cu*₁ on *M*₃₊₄.

Abdominal tergites deep yellow with three conspicuous dark brown longitudinal stripes, one being dorso-median, two sublateral, the latter interrupted at the bases of the segments; lateral margins of the tergites pale buff; sternites similarly trivittate with brown. Ovipositor with the basal shield long, shiny brown; tergal valves long and almost straight, the tips subacute; the much shorter but highly compressed sternal valves have the tips obtuse.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♀, On board the »Condor», enroute to Punta Arenas, February 25, 1896 (OHLIN).

Type in the Riksmuseum in Stockholm.

This species is evidently close to *T. pictipennis* WALK. which is a smaller species (Length 17 mm.; wing-expanse 32 mm.).

Tipula tehuelche, sp. n.

Antennae dark brownish black, the second segment but little brightened; head dark gray, paler gray on the vertical tubercle; mesonotal praescutum gray with four longitudinal stripes and the lateral margins brown; femora dull yellowish brown, the tips narrowly dark brown; wings whitish subhyaline with a heavy brown and gray pattern; abdominal tergites dull yellow with three very broad dark brown stripes that are broadly connected across the posterior margins of the segments, restricting the ground-color to the bases of the segments; sternites dark brown.

Male. — Length about 12—13 mm.; wing, 15,5 mm.

Female. — Length about 17 mm.; wing, 16 mm.

Frontal prolongation of the head dark gray; palpi dark brown. Antennae of moderate length, dark brownish black, the second segment a little brighter; flagellar segments scar-

sely incised beneath, the basal enlargement but little conspicuous (Plate 2, fig. 19). Head dark gray, the vertical tubercle conspicuously light gray; vertex with a conspicuous narrow dark brown median line; vertical tubercle very large and conspicuous in both sexes.

Mesonotal praescutum dark, heavily gray pruinose, with four bright brown stripes, the intermediate pair very indistinct, formed by the lateral margins of the usual median stripe; lateral stripes and the extreme lateral margins of the praescutum more distinctly brown; scutum dark gray, each lobe with two brown marks; scutellum and postnotum gray with a capillary dark brown median line. Pleura light gray. Halteres brown, the base of the stem somewhat more orange, the base of the knobs a little paler. Legs with the coxae light gray pruinose; trochanters brown; femora dull yellowish brown, the tips narrowly dark brown, immediately before the tips a little brightened; tibiae brown, the tips dark brown; tarsi dark brown; the legs of the female are proportionately stouter than those of the male. Wings whitish subhyaline, rather heavily marbled with brown and gray, the costal and subcostal cells more yellowish; subcostal cell with four dark brown spots, the two intermediate large, rounded, continued down into cell *R* and larger than the space between them; the remainder of the wing is clouded with gray, very pale and zigzag in the anal cells.

Abdominal tergites dull yellow with three dark brown stripes, the sublateral stripes very broad, the median stripe narrower, all three stripes connected transversely by very broad posterior margins to the tergites which restrict the yellow markings to a small anterior area on either side of the median stripe on the intermediate segments; lateral margins of the tergites broadly and conspicuously pale buff, interrupted on the basal ring of each tergite; sternites dark brown. Male hypopygium with the ninth tergite (plate 2, fig. 13) flattened, the caudal margin flattened and very gently concave to almost truncate; the dorso-median area weakly membranaceous. Ninth pleurite complete, the ventral proximal angle (plate 2, fig. 18) produced caudad into a very short, stout obtusely rounded lobe that is dark in color and sparsely hairy; outer pleural appendage (plate 2, fig. 17) enlarged distally, the club provided with coarse erect hairs;

inner pleural appendage with the caudal margin fringed with long, coarse yellow hairs. Ninth sternite extensive, the ventro-median area membranous. Eighth sternite with a very small median lobe (plate 2, fig. 16) that is sparsely provided with pale hairs. Female ovipositor (plate 2, fig. 20) with the dorsal basal shield a little longer than the tergal valves; these latter are straight with the tips acute; sternal valves very long and flattened, extending almost to the ends of the tergal valves, their tips acute.

Habitat. — Territory of Magallanes, Chile; Tierra del Fuego.

Holotype, ♀, Rio Grande, Tierra del Fuego (OHLIN).

Allotype, ♂, Punta Arenas, U.S. Fish Commission No. 21, 699.

Type in the Riksmuseum in Stockholm; allotype in the United States National Museum.

This species agrees fairly with BIGOT's description of *Tipula variineura* (as *Nephrotoma*) but this species has the antennal segments of the male more slender and attenuated, and the ovipositor of the female short and conoidal.

The specific name, *tehuelche*, is derived from that of the Indian tribe of this name inhabiting eastern Patagonia, south to the Straits of Magellan (see HATCHER, Reports of the Princeton University Expedition to Patagonia, 1896—1899, vol. 1, Narrative and Geography, pp. 261—272; 1903).

Tipula antarctica, sp. n.

Antennae dark brown, the scapal segments yellowish; head dark gray, paler adjoining the inner margin of the eyes; thorax gray, the praescutum with six narrow brown stripes; femora brown, the tips broadly dark brown, a broad subterminal ring; wings brown, variegated with subhyaline spots; a series of four dark brown blotches in the subcostal cell; abdomen yellow, the segments ringed caudally with dark brown, the terminal abdominal segments brownish black; eighth sternite of the male hypopygium with a small semicircular median lobe.

Male. — Length 13.5—14 mm.; wing, 15—15.5 mm.

Frontal prolongation of the head dark brown, sparsely gray pruinose; palpi dark brown. Antennae with the scapal segments yellowish, the base of the first segment a little infuscated; flagellum dark brown, the segments rather long and moderately incised beneath. Head dark gray, pale gray adjoining the inner margin of the eyes and on the front.

Mesonotal praescutum gray with six narrow dark brown stripes, the two intermediate being the broad margins of the usual median stripe that is divided by a gray line of somewhat greater width; sublateral and lateral stripes short, narrowly separated by a light gray space; scutum gray, the lobes with small brown marks; remainder of the mesonotum gray. Pleura dark gray, the dorso-pleural membrane indistinctly yellowish. Halteres dark brown, the base of the stem pale. Legs with the coxae light gray; trochanters dull yellow, the apices narrowly blackened; femora light brown, the tips broadly dark brownish black, before the tips with a nearly subequal yellowish ring; tibiae yellowish brown, darkening toward the tip; tarsi dark brown; legs long and slender. Wings brown, sparsely variegated with subhyaline; subcostal cell with four large, dark brown blotches that are very much larger than the pale yellowish interspaces; stigma brown; pale areas arranged as follows: before and beyond the stigma; tip of cell R_3 ; near the base of cell R_5 ; before the origin of R_s in cell R ; before the end of cell M ; zigzag areas in Cu and $1st A$; veins dark brown.

Abdomen with the first tergite and the base of the second dark brown, broadly margined laterally with buff; posterior margins narrowly brown, this increasing in amount on the outer segments; segments six to nine dark brownish black. Male hypopygium of simple structure. Ninth tergite (plate 2, fig. 12) large, flattened, the posterior margin with a deep narrow notch, the adjoining lobes with the tips broadly and obtusely truncated. Ninth pleurite complete; outer pleural appendage pale, a little enlarged distally, provided with sparse long hairs. Ninth sternite with a narrow profound median incision. Eighth sternite (plate 2, fig. 15) black with a small semi-circular median extension, with a whitish spot on either side at the base.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♂, Punta Arenas, Straits of Magellan, December 12, 1895 (O. NORDENSKJÖLD).

Paratopotype, ♂.

Type in the Riksmuseum in Stockholm.

In the yellow-ringed femora, *Tipula antarctica* agrees with *T. flavo-annulata* JACOBS (Rio Gallegas, Straits of Magellan) which has the head, thorax and coxae black.

Tipula magellanica, sp. n.

Antennae rather short, dark brown, the second segment dull yellow; head dull gray; wings grayish brown, variegated with subhyaline areas, including spots before and beyond the stigma and along the wing-margin at the ends of cells R_3 to 1st A ; ninth tergite of the male hypopygium with a broad U-shaped median notch; eighth sternite with a small semicircular lobe whose apex is indistinctly notched medially and provided with a fringe of long hairs.

Male. — Length about 13 mm.; wing, 16 mm.

Frontal prolongation of the head reddish brown, sparsely light gray pruinose; palpi dark brown. Antennae rather short, the first segment dull reddish, sparsely gray pruinose; second segment dull yellow; flagellar segments dark brown, the basal enlargement rather conspicuous, each provided with about five long verticils. Head dull gray with an indistinct dark brown capillary median line.

Mesonotum badly discolored in the unique type, dark brown; in fresh specimens presumably gray pruinose. Halteres dark brown, the base of the stem more yellowish. Legs with the coxae light brown; trochanters dull yellow; femora and tibiae brownish yellow, the tips dark brown; tarsi dark brown. Wings grayish brown, variegated with subhyaline areas; subcostal cell with two dark brown areas in addition to the dark apex, the dark areas smaller than the pale interspaces; stigma dark brown; pale areas before and beyond the stigma; a large blotch in cell M adjoining vein Cu ; indistinct pale clouds in cell 1st M_2 and the adjoining part of cell R_5 ; conspicuous pale spots along the wing-margin in cells R_3 , R_5 , M_1 , 2nd M_2 , M_4 and three in cell 1st A . Venation: cell 1st M_2 rather small; petiole of cell M_1 a little longer than cell 1st M_2 .

Abdomen dark brown, the incisures pale; the type is discolored and the true coloration in fresh specimens is in doubt.

The male hypopygium (plate 2, fig. 10) has the ninth tergite (Plate 2, fig. 11) large, with a very broad and deep U-shaped median notch, the lateral lobes comparatively narrow and obtusely rounded at their tips which are margined with erect delicate hairs. Ninth pleurite complete but rather small, the ventral proximal angle produced dorso-caudad as a slender lobe that is clothed with short erect hairs; outer pleural appendage comparatively large and stout, cylindrical, provided with long, divergent hairs; inner pleural appendage long and slender, compressed, the caudal margin with erect pale hairs, the apex produced into a comparatively slender beak that juts into the notch of the tergite. Ninth sternite profoundly incised on the mid-ventral line; on the caudal dorsal margin close to the pleurite with a small globular lobe that is densely hairy. Eighth sternite (plate 2, fig. 14) with a small semicircular appendage whose apex is indistinctly bilobed by a small median notch, the edges fringed with abundant long hairs.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♂, Punta Arenas, Straits of Magellan, November 28, 1895 (OHLIN) Collector's No. 212.

Type in the Riksmuseum in Stockholm.

Tipula magellanicola, sp. n.

Antennae dark brown, only the second segment light yellow; mesonotum reddish gray, the praescutum with three very broad dark brown stripes; femora with a yellowish ring before the dark tips; wings subhyaline, marbled with brown, the subcostal cell with four dark brown marks, one being at the base and another at the tip of the cell; outer cells of the wing with the centers gray; abdominal tergites dark, the caudal margins broadly margined with yellow.

Female. — Length about 19 mm.; wing, 16 mm.

A rather small species that agrees in many respects with *T. magellanica*, sp. n., but which presents several features that cannot be reconciled with the condition found in the latter species.

The antennae are dark brown, the second segment only being light yellow. Mesonotum reddish gray, the praescutum with three broad grayish brown stripes, the median stripe being very broad, the interspaces correspondingly narrow, almost obliterated opposite the anterior ends of the lateral stripes which are thus practically confluent with the median stripe; postnotum with a capillary dark brown line. Femora brownish yellow, the tips broadly dark brown, a distinct yellowish subapical ring; tibiae brownish yellow, the tips narrowly darkened; tarsi dark brown. Wings subhyaline, marbled with brown and gray; base of the wing, at the arculus, darkened; the subcostal cell has two comparatively small brown marks in addition to the brown base and tip; of these marks, the first is smaller, the second larger, subquadrate, passing into cells *R* and *1st R*₁; stigma dark brown, including the end of cell *Sc* and connected with a large brown mark at the end of the sector; a sparse gray clouding in the centers of cells *R*₂, *R*₃, *R*₅, *M*₁, *2nd M*₂, *M*₄, *Cu*₁ and more irregularly in the anal cells; a broad brown seam along the forks of *Cu*; veins dark brown. Venation: cell *M*₁ large and ample; *m-cu* long and conspicuous. In the holotype, cell *1st M*₂ is open in both wings by the atrophy of *m*.

Abdomen dark brown, badly discolored in the types; the caudal margins of segments two to seven broadly margined with yellow. Ovipositor with the tergal valves slender, long, the sternal valves much shorter, flattened, the tips truncated.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♀, Punta Arenas, Straits of Magellan (OHLIN).

Paratopotype, ♀, December 9, 1895 (OHLIN) Collector's No. 425.

Type in the Riksmuseum in Stockholm.

Compared with *Tipula magellanica*, the present species is seen to have the head clearer gray, the yellow femoral ring more distinct and the wing-pattern very different, the ground-colour being nearly hyaline, marbled with gray and brown; the centers of the posterior cells are *completely* encircled by pale whereas in *T. magellanica* only the outer ends are pale. It is probable that the two forms are rather closely related, however.

Three larger females (Punta Arenas, November 27—30, 1895, O. NORDENSKJÖLD, Collectors's No. 189) closely resemble the types of *T. magellanicola* but are considerably larger (Length about 23 mm.; wing, 18,5 mm.) and with the abdomen more yellowish. With more material these may be found to represent a distinct species but at present they must be considered as being *Tipula magellanicola* and have been so labelled.

The glaphyroptera group.

This Chilian and Patagonian group of the genus represents a condition that is very comparable with that found in the Neotropical *monilifera* group (see Transactions American Entomological Society, vol. 42, pp. 23—30; 1916). The hypopygium of the species in which the males are known (*T. fuegiensis*, *T. patagonica*, *T. nordenskjöldi*, *T. duséni* and *T. glaphyroptera*; the latter species added from a Chilian specimen in the writer's collection that agrees very well with Philippi's brief description) bears on the eighth sternite a long, pale foliaceous appendage that is profoundly incised into three lobes; in the specialized species (*T. duséni*, *T. glaphyroptera*), the median lobe of these three is vestigial, the two laterals being very broad (see plate 1, fig. 9). This condition is quite similar to that occurring in the *monilifera* group except that in this case the median lobe persists in the specialized forms while the laterals atrophy. The structure of the hypopygium proper in the *glaphyroptera* group is very uniform throughout the group (see plate 1, fig. 1). The ninth tergite is large and flattened, the sides narrowed to the apex which terminates in two compressed blades that are parallel or slightly divergent (see plate 1, figs. 2 to 4). The ninth pleurite is complete; near its ventral-proximal angle with a cylindrical arm that is provided with long, coarse setae at its tip; the outer pleural appendage is cylindrical or slightly expanded distally, provided with coarse hairs; the inner pleural appendage is a compressed blade that terminates in a long chitinized beak which juts into the notch of the tergite. The ninth sternite is profoundly incised medially, the incision filled with a membranous tissue;

at the dorso-proximal angle of the sternite is a small globular or subglobular lobe that is covered with a short oppressed pubescence and sometimes armed with a dorsal pencil of stiff setae; this structure lies immediately dorsad of the cylindrical pleural arm but is apparently borne by the sternite.

The wing-pattern varies in the different species. In the generallized forms (*T. fuegiensis*, *T. patagonica*), the wing is darkened and with but few white markings, but in the specialized species (*T. glaphyroptera*, *T. duséni*) the pattern is conspicuously diversified, there being a conspicuous white transverse band beyond the stigma, continued across cell 1st M_2 into the base of cell M_4 . It is probable that other southern Patagonian and Chilian species, now known only from the female sex, will be found to belong to this group. Such possibilities are *T. philippiana* ALEX., *T. chilensis*, *T. ona*, *T. rufirostris* BIG., *T. bigotiana* and probably others.

Tipula patagonica, sp. n.

Belongs to the *glaphyroptera* group; antennae rather long, black, the second scapal segment conspicuously light orange; mesonotum dark gray, the praescutum with but two indistinct brownish submedian lines; wings brown, with a small whitish area beyond the stigma and two others near the ends of the basal cells; abdomen buffy yellow, trivittate with dark brown; eighth sternite of the male hypopygium with a trifid appendage.

Male. — Length 14 mm.; wing, 14,5 mm.

Female. — Length about 17 mm.; wing, 12,5—13,5 mm.

Frontal prolongation of the head short and stout, dark brown; nasus stout; palpi dark brown. Antennae rather elongate in the male sex, if bent backward extending to some distance beyond the wing-root; first scapal segment dark brown, the second conspicuously light orange; flagellum brownish black, the segments moderately incised beneath. Head dark gray, the frontal tubercle indistinctly margined in front with pale.

Mesonotum dark bluish gray, the praescutum without distinct stripes, the position of the usual median stripe being indicated by an indistinct light brown line on either side. In the female, the lateral margins of the mesonotal praescutum, before the wingroot, are brownish. Pleura dark gray, the dorso-pleural membrane dull yellow. Halteres dark brown. Legs with the coxae light gray; trochanters dull yellow; femora light brown, the tips broadly dark brown; tibiae brown, passing into darker brown at the tips; tarsi dark brown; legs comparatively short and stout, the metatarsi shorter than the tibiae. Wings with a strong brownish tinge; stigma darker brown; a whitish area beyond the stigma in the outer end of cell *2nd R*₁ and the cephalic half of *R*₂; a small whitish area in the ends of cell *R* and cell *M*; veins dark brown. Venation: *m-cu* distinct but short.

Abdomen buffy yellow, the tergites with three broad dark brown longitudinal stripes, two being sublateral, one median, these broadly connected across the posterior half of each segment; this dark border is less extensive on tergite two, increasing in amount on the succeeding tergites, on segments six to eight including the entire sclerite; lateral margins of the tergites broadly pale buffy. In the female sex the dorso-median stripe is narrower and the posterior margins of the intermediate tergites are narrowly yellowish. Sternites dull yellowish, with a very narrow and indistinct capillary brown median line. Male hypopygium with the ninth tergite (plate 1, fig. 3) extensive, narrowed apically, the caudal margin terminating in two divergent carinae with the space between concave; viewed from the side these carinae appear as compressed blades. Outer pleural appendage narrow basally, expanded distally into a flattened blade (plate 1, fig. 5); ventral caudal angle of the ninth pleurite produced into a short-cylindrical arm that is provided with long hairs at the tip. Eighth sternite with a large flattened appendage (plate 1, fig. 7) that is profoundly trifid, the median lobe yellowish and slightly longer than the lateral lobes, a little expanded at its apex; lateral lobes obliquely truncated at their tips, dark brown, the bases and tips pale. Ovipositor with the tergal valves long and slender, almost straight; sternal valves much shorter, flattened, the tips subobtuse.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♂, Punta Arenas, Straits of Magellan, November 28, 1895 (OHLIN) Collector's No. 212.

Allotopotype, ♀, November 25, 1895 (O. NORDENSKJÖLD).

Paratopotypes, one ♂ with the type; one ♀ with the allotype.

Type in the Riksmuseum in Stockholm.

Tipula fuegiensis, sp. n.

Belongs to the *glaphyroptera* group; close to *T. patagonica*, sp. n.; antennae short, the basal segments pale; wings with no transverse whitish band beyond the stigma; longitudinal white streaks in cells *R*, 1st *M*₂; the outer half of *R*₅ and the outer end of *Cu*; eighth sternite of the male hypopygium with a trifid appendage.

Male. — Length about 15 mm.; wing, 16,5 mm.

Antennae rather short, if bent backward scarcely attaining the wing-root; the basal three or four segments dull brownish yellow, the remaining segments more uniformly brown. Head light gray pruinose, with a very narrow and indistinct capillary brown line.

Mesonotal praescutum dark brown with three dark gray stripes, the median stripe split by a capillary brown line that broadens out behind; postnotum light reddish gray pruinose. Pleura grayish with an indistinct brown longitudinal stripe. Femora with a broad, indistinct brownish ring immediately before the tip. Wings with a strong brownish tinge, more saturated in the costal and subcostal cells; hyaline areas as follows: near the end of cell *R*; above the end of vein *Sc*, in the costal cell; most of cell 1st *M*₂; the outer half of cell *R*₅; the outer third of cell *Cu* and a narrow anterior border along cell 1st *A*; brownish markings as follows: a rounded cloud at the origin of *Rs*, passing into the subcostal cell; a small brown area in the extreme end of cell *Sc*; a brown seam behind vein *Cu*.

Abdomen dull yellow, the tergites with three narrow, indistinct brown longitudinal stripes; subterminal segments, six to eight, dark brown. Male hypopygium with the ninth tergite (plate 1, fig. 2) large, on either side of the median

line produced into a slender horn that is directed caudad and diverges from its mate; this horn is considerably longer than the corresponding structure in *T. patagonica*. Ventral caudal angle of the ninth pleurite produced caudad into a long-cylindrical arm that bears long, coarse tawny hairs at the tip; immediately dorsad of these lies a small rounded light yellow lobe on either side, the outer face microscopically pubescent. The eighth sternite (plate 1, fig. 6) bears a conspicuous appendage that is profoundly trifid, the median blade slender, blackened, the lateral blades broad, flattened, with the tips feebly but distinctly bilobed.

Habitat. — Tierra del Fuego.

Holotype, ♂, Rio Grande, February 1896 (OHLIN) Collector's No. 1021.

Type in the Riksmuseum in Stockholm.

As indicated in the diagnosis, this species is most closely allied to *T. patagonica*; from this species it is readily told by the much shorter antennae; the different thoracic and wing-pattern, and the different details of structure of the male hypopygium especially the longer horns of the ninth tergite, the longer arm of the ninth pleurite and the different appearance of the blade on the eighth sternite.

Tipula nordenskjöldi, sp. n.

Belongs to the *glaphyroptera* group; close to *T. patagonica* sp. n.; antennae rather short, the scapal segments dull yellow, the flagellar segments very obscurely bicolorous; mesonotum pale brown with three darker brown stripes; femora with a broad dark brown ring before the tip; wings pale brownish gray, sparsely variegated with subhyaline; outer half of cell *Sc* almost entirely dark brown; abdominal tergites dull yellow, very indistinctly trivittate with pale brown; eighth sternite of the male hypopygium with a trifid appendage whose broad median lobe exceeds the subacute lateral lobes.

Male. — Length 17,5 mm.; wing, 18 mm.

Frontal prolongation of the head light reddish brown; palpi dark brown. Antennae rather short, the scapal segments dull yellow; flagellar segments brown, the basal en-

largement of the segments a shade darker than the remainder of the segments, producing a very indistinct bicolorous effect. Head brownish gray, the vertex with a narrow dark brown median line.

Mesonotal praescutum pale buffy brown, with three darker stripes, the median stripe brown, of a shade that is but little darker than the ground-colour, margined laterally with dark brown, this margin becoming obsolete anteriorly; lateral stripes dark brown; scutum dull gray, the lobes indistinctly marked with brown; scutellum and postnotum reddish brown, the latter with a very indistinct capillary brown line. Pleura pale testaceous brown. Halteres pale, yellow at the base, the knobs darker brown. Legs with the coxae pale testaceous brown; trochanters dull yellow; femora dull brownish yellow with a broad dark brown ring immediately before the tips; tibiae and tarsi brown. Wings with a very pale brownish gray suffusion, sparsely variegated with subhyaline; the outer half of cell *Sc* is dark brown, excepting a small circular, hyaline area before the tip; a subhyaline area beyond the stigma in the outer half of cell *2nd R₁* and the basal half of cell *R₂*; outer half of cell *R₅* pale; caudal half of cell *1st M₂* pale; indistinct pale areas in cell *1st R₁* near the origin of *Rs*; before the end of cell *M*; in cell *Cu* and a zigzag line in cell *1st A*. Venation: petiole of cell *M₁* short, about as long as *m*.

Abdomen dull yellow, with narrow sublateral dark brown stripes, the dorso-median stripe very indistinct; abdomen scarcely darkened toward the tip; sternites dull yellow, the terminal segments more obscure. Male hypopygium with the ninth tergite (plate 1, fig. 4) extensive, produced caudad into two long, slender blackened points that are directed caudad and slightly ventrad, the space between them almost transversely truncate; lateral angles of the tergite produced caudad and proximad into somewhat similar arms. Outer pleural appendage elongate-cylindrical with long, divergent brown setae; appendage on eighth pleurite rather slender, provided with long, dark brown hairs. The pale lobes on the ninth sternite with the apex deeply notched on the lateral face, the tip without a conspicuous pencil of setae. Eighth sternite (plate 1, fig. 8) with the appendage pale yellow, profoundly trifold, the median lobe considerably longer

than the lateral lobes, gradually narrowed to the tip; lateral lobes broad at the base, rapidly narrowed to the subacute tips.

Habitat. — Territory of Magallanes, Chile.

Holotype, ♂, Punta Arenas, Straits of Magellan (O. NOR-
DENSKIÖLD).

Type in the Riksmuseum in Stockholm.

Tipula duséni, sp. n.

Belongs to the *glaphyroptera* group; close to *glaphyroptera* PHILIPPI; antennae moderately elongated, the intermediate segments distinctly bicoulored; mesonotal praescutum buffy with three brown stripes, the median stripe bisected by two narrow gray lines; wings rather dark brown, the subcostal cell with two large dark brown blotches; a narrow transverse whitish band beyond the stigma, extending to beyond cell 1st M_2 ; abdomen brownish yellow, trivittate with dark brown; eighth sternite of male hypopygium with a bifid appendage.

Male. — Length about 16 mm; wing, 16 mm.

Frontal prolongation of the head dark brown; palpi pale brown, the last segment darker. Antennae with the scapal segments dull yellow; first flagellar segment brownish yellow basally, clearer yellow beyond; flagellar segments two to five with the basal enlargement black, the pedicel yellowish brown; remaining flagellar segments dark brown. Head dark.

Mesonotal praescutum buffy with three dark brown stripes, the interspaces with a few brown setigerous punctures and with a small brownish mark near the suture; the median stripe is entire behind only, for most of its length with a broad gray line on either side of a brown median line of nearly equal width; lateral stripes narrow; remainder of the mesonotum gray, the scutal lobes marked with brown. Pleura clear light gray, dorso-pleural membrane dull yellowish buff, sparsely marked with brown. Halteres dark brown. Halteres dark brown, the base of the knob a little paler. Legs with the coxae pale yellow, sparsely gray pruinose; trochanters dull yellow; femora dull brownish yellow,

the tips broadly dark brown; tibiae similar, the tips narrowly darkened; tarse dark brown; legs slender. Wings rather dark brown; stigma darker brown; subcostal cell with two large blotches and the tip dark brown, these larger blotches as extensive as the pale interspace between them; a rather narrow but very clear-cut band of whitish hyaline beyond the stigma, continued caudad and including cell 1st M_2 and the extreme base of cell M_4 ; outer third of cell R_5 similar; a large whitish area before the stigma, lying about midlength of R_s which it traverses; a somewhat similar area in the basal cells beyond midlength.

Abdominal tergites dull brownish yellow, trivittate with dark brown, the lateral stripes darker, complete, the median stripe narrowly interrupted at the bases of the segments, paler brown; subterminal segments of abdomen not conspicuously darkened. Male hypopygium similar to that of *T. glaphyroptera*, *T. patagonica*, and allies. Ninth tergite about as in *T. patagonica*, but the apical points more widely separated. Outer pleural appendage long and slender, nearly cylindrical throughout its length; ninth pleurite with the ventral caudal arm terminating in long yellowish hairs that are nearly as long as the arm itself; immediately dorsad of these a dark-coloured hemispherical lobe, covered with an abundant silvery pubescence and with a pencil of stiff yellow hairs that are directed dorsad. Eighth sternite (plate 1, fig. 9) with the median appendage very large, bifid by a profound median split, the median lobe that is found in *T. patagonica* and *T. fuegiensis* being here represented only by a vestige at the base of the incision; lobes tapering gradually to the obtuse tips.

Habitat. — Chile.

Holotype, ♂, Rio Aysén (P. DUSÉN).

Paratopotypes, 2 ♂'s.

Type in the Riksmuseum in Stockholm.

Compared with a Chilean specimen that agrees well with PHILIPPI's rather brief description of *T. glaphyroptera*, the present species differs in the much heavier pattern of the wings and thorax.

Explanation of plates.

Plate 1.

- Fig. 1. Male hypopygium of *Tipula fuegiensis*, lateral aspect.
» 2. » » » » » , ninth tergite, dorsal aspect.
» 3. Male hypopygium of *Tipula patagonica*, ninth tergite, dorsal aspect.
» 4. Male hypopygium of *Tipula nordenskjöldi*, ninth tergite, dorsal aspect.
» 5. Male hypopygium of *Tipula patagonica*, outer pleural appendage.
» 6. Male hypopygium of *Tipula fuegiensis*, eighth sternite, ventral aspect.
» 7. Male hypopygium of *Tipula patagonica*, eighth sternite, ventral aspect.
» 8. Male hypopygium of *Tipula nordenskjöldi*, eighth sternite, ventral aspect.
» 9. Male hypopygium of *Tipula duséni*, eighth sternite, ventral aspect.

Plate 2.

- Fig. 10. Male hypopygium of *Tipula magellanica*, lateral aspect.
» 11. » » » » » , ninth tergite, dorsal aspect.
» 12. Male hypopygium of *Tipula antarctica*, ninth tergite, dorsal aspect.
» 13. Male hypopygium of *Tipula tehuelche*, ninth tergite, dorsal aspect.
» 14. Male hypopygium of *Tipula magellanica*, eighth sternite, ventral aspect.
» 15. Male hypopygium of *Tipula antarctica*, eighth sternite, ventral aspect.
» 16. Male hypopygium of *Tipula tehuelche*, eighth sternite, ventral aspect.
» 17. Male hypopygium of *Tipula tehuelche*, outer pleural appendage.
» 18. Male hypopygium of *Tipula tehuelche*, ninth pleurite.
» 19. Antenna of *Tipula tehuelche*, fourth and fifth flagellar segments.
» 20. Ovipositor of *Tipula tehuelche*, lateral aspect.

Tryckt den 4 augusti 1920.